

TRANSLATION

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference MD031PCT	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2004/013962	International filing date (day/month/year) 24.09.2004	Priority date (day/month/year) 24.09.2003
International Patent Classification (IPC) or national classification and IPC H01L21/26, 21/31, 35/28, 35/30		
Applicant MITSUBOSHI DIAMOND INDUSTRIAL CO., LTD.		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>																									
<p>4. This report contains indications relating to the following items:</p> <table><tr><td><input checked="" type="checkbox"/></td><td>Box No. I</td><td>Basis of the report</td></tr><tr><td><input type="checkbox"/></td><td>Box No. II</td><td>Priority</td></tr><tr><td><input type="checkbox"/></td><td>Box No. III</td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td><input type="checkbox"/></td><td>Box No. IV</td><td>Lack of unity of invention</td></tr><tr><td><input checked="" type="checkbox"/></td><td>Box No. V</td><td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VI</td><td>Certain documents cited</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VII</td><td>Certain defects in the international application</td></tr><tr><td><input type="checkbox"/></td><td>Box No. VIII</td><td>Certain observations on the international application</td></tr></table>		<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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Date of submission of the demand	Date of completion of this report																								
Name and mailing address of the IPEA/JP	Authorized officer																								
Facsimile No.	Telephone No.																								

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):
- ☒ the international application as originally filed/furnished
- ☐ the description:
- pages _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☐ the claims:
- nos. _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* _____ received by this Authority on _____
- nos.* _____ received by this Authority on _____
- ☐ the drawings:
- sheets _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-59	YES
	Claims		NO
Inventive step (IS)	Claims	2-21, 23-38, 41, 45-47, 58, 59	YES
	Claims	1, 22, 39, 40, 42-44, 48-57	NO
Industrial applicability (IA)	Claims	1-59	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
Document 1: WO 2002/057192 A1 (Mitsuboshi Diamond Industrial Co., Ltd.), 25 July 2002, page 10, line 3 to page 14, line 7; page 16, lines 4 to 7; page 17, lines 24 to 26; page 19, lines 12 to 14 & US 2004/0040997 A1			
Document 2: JP 2001-206727 A (Asahi Glass Co., Ltd.), 31 July 2001, claim 1; paragraphs [0015] and [0030]; and fig. 1, 7 and 8			
Document 3: JP 2000-247669 A (Asahi Glass Co., Ltd.), 12 September 2000, paragraph [0013]			
Document 4: JP 63-207615 A (Tokyo Seimitsu Co., Ltd.), 29 August 1988, page 4, lower left column, lines 4 to 10 and fig. 4 and 5 & EP 0280245 A2			
Document 5: JP 2003-523916 A (Libby Owens Ford Co.), 12 August 2003, paragraph [0029] & WO 2001/62680 A1			
Claims 1, 22, 39, 40, 48, 50 and 52 to 57 do not involve an inventive step in the light of document 1 and document 2 cited in the international search report. Document 1 discloses a pair of scribe line forming means that are disposed opposite one another and are capable of			

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movement in the X-axis direction. Meanwhile, document 2 discloses a scribe line forming means that is capable of movement within the X-Y plane, and also discloses a feature wherein the cutter is moved along the path of a scribing line that has a desired form. Such being the case, it would have been easy for a person skilled in the art to conceive of applying the technical features that are disclosed in document 2 in the invention that is disclosed in document 1. Therein, the specific path of the scribing line is merely a simple design matter. In addition, document 2 also discloses a positioning unit that employs adhesion in order to position the substrate (page 3, left column, lines 42 to 46) while document 1 also discloses an inspection system (page 17, lines 24 to 26).

Claims 42 and 43 do not involve an inventive step in the light of document 1, document 2 and document 4 cited in the international search report. Document 4 discloses vacuum adsorption pads that are capable of making fine positional adjustments in both the axial direction and another direction that is inclined relative to the axial direction. Therein, the specific mechanism for enabling the fine positional adjustments is merely a simple design matter that can be configured by a person skilled in the art, as appropriate.

Claim 44 does not involve an inventive step in the light of document 1, document 2 and document 5 cited in the international search report. Document 5 discloses the feature of forming a lamellar flow and supporting the substrate.

Claims 49 and 51 do not involve an inventive step in the light of document 1, document 2 and document 3

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cited in the international search report. Document 3 discloses a beveling system that can be connected to a substrate dicing system.

Meanwhile, the inventions that are set forth in claims 2 to 21, 23 to 28, 41, 45 to 47, 58 and 59 are not disclosed in any of the documents that are cited in the international search report, and would not have been obvious to a person skilled in the art.